



Glenn and EPA Partner for Fuel Efficiency

Pilot Program Helps Reduce Fuel Emissions

A ceremony on Nov. 15 kicked off a 1-year pilot program between Glenn and the Environmental Protection Agency (EPA). The partnership is designed to achieve executive mandates for alternative fuel use to reduce the carbon footprint and greenhouse gas emissions of federal fleets.

Glenn's Director of Center Operations Robyn Gordon, Logistics and Technical Information Division (LTID), Project Lead Antoine Moss and EPA Acting Section Chief John Gierczak welcomed EPA and Glenn personnel. A security overview and fuel site training immediately followed the brief ceremony.

A two-time Government Green Fleet Award winner, Glenn is making its alternative fuel pumps available for fueling EPA's five Government Services Administration (GSA) leased vehicles. The center will leverage its existing infrastructure and capacity to help the EPA meet mandates.

"Glenn enjoys a proud history of developing technologies for sustainable energy, while improving efficiency and reducing emissions. These efforts regarding motor vehicles were recently recognized with a Green Fleet Award," Gordon said. "This



C-2010-5217

Photo by Bridget Caswell

Glenn's Garage Supervisor Patrick Spohn conducts fuel station training for EPA employees.

Glenn Joins in Human-Robotic Field Tests

NASA Desert RATS Prepare for the Unknown

A contingent of NASA Glenn researchers was instrumental in field tests conducted in the desert north of Flagstaff, Ariz., for a number of key technologies that will be needed for NASA's future exploration beyond Earth. They were part of a NASA-led team of research partners called Desert RATS (Research and Technology Studies) working together to prepare for human-robotic exploration.



The Glenn excavator tool at the front of the rover picked up dirt and boulders.

A highlight of this year's field tests was an astronaut and a geologist living inside NASA's prototype Space Exploration Vehicle. They also scouted the test area for features of geological interest and conducted simulated spacewalks to collect samples in remote areas of the Arizona desert, where terrain and weather conditions

partnership fosters important center goals for creating strategic business partnerships that will enable Glenn to take significant steps towards our commitment to be an integral part of the Ohio community and the Nation."

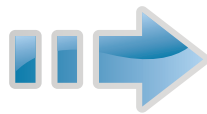
Moss and Sue Kraus, Glenn's transportation officer, annually attend seminars and workshops on fleet management. Those sessions proved to be beneficial in facilitating this partnership, which was initiated by the EPA about a year ago.

—By S. Jenise Veris

In This Issue

- 2 ... Straight from the Director
- 3NASA Spinoffs Game
- 4News and Events
- 7My Job at Glenn
- 8 2010 CFC Highlights

Continued on page 2



Center Director Lugo

Values and What They Mean to Me

This last year has been one of very mixed emotions for me. Losing my mother has forced me to reflect on my values and what they really mean to me. I have not had a day go by since my mother passed that I do not think of her. I ask myself what she would expect of me, and most importantly, am I living a life that would make her proud. I realized a long time ago that values are not just words on paper—they are what make you who you are.

I have always held integrity as the value I hold most dear. I think most people believe that integrity is telling the truth, about your word as your bond, or about standing up for what is right. I have always boiled it down to one simple phrase, “doing the right thing.”

Doing the right thing is not always the easy thing to do. I always ask myself, am I doing the “right thing for the right reason” or am I doing the right thing because it will make me look good. I am always checking myself for this. The reason I check myself is when you do the right thing because it makes you look good, then you are susceptible to a failure of character. More importantly, the inability to do the right thing when it feels bad makes you look bad.

At times I have to make a decision that does not feel good, such as asking for a group to independently review our facilities and capabilities; having to discipline an employee; or standing up for an injustice or inequity. I work every day to be the leader that not only talks about integrity, but makes the effort for it to be my compass in life.

I would ask you to review the [NASA Values](#):

- **Safety:** NASA’s constant attention to safety is the cornerstone upon which we build mission success. We are committed, individually and as a team, to protecting the safety and health of the public, our team members, and those assets that the Nation entrusts to the Agency.

- **Integrity:** NASA is committed to maintaining an environment of trust, built upon honesty, ethical behavior, respect and candor. Our leaders enable this environment by encouraging and rewarding a vigorous, open flow of communication on all issues, in all directions, among all employees without fear of reprisal. Building trust through ethical conduct as individuals and as an organization is a necessary component of mission success.

- **Teamwork:** NASA’s most powerful tool for achieving mission success is a multi-disciplinary team of diverse,

competent people across all NASA Centers. Our approach to teamwork is based on a philosophy that each team member brings unique experience and important expertise to project issues. Recognition of and openness to that insight improves the likelihood of identifying and resolving challenges to safety and mission success. We are committed to creating an environment that fosters teamwork and processes that support equal opportunity, collaboration, continuous learning and openness to innovation and new ideas.

- **Excellence:** To achieve the highest standards in engineering, research, operations and management in support of mission success, NASA is committed to nurturing an organizational culture in which individuals make full use of their time, talent, and opportunities to pursue excellence in both the ordinary and the extraordinary.

I would ask that we all commit to NASA’s Values, make decisions that are consistent with them, and ultimately, live your life according to them.

Desert RATS Simulate Space Environment

Continued from page 1

mimic the hostile environment of the lunar surface.

The Desert RATS team of engineers and scientists convened over several weeks in August and September, to assess preliminary exploration operational concepts for surface operations, including rovers, extravehicular activity (EVA) time lines and ground support.

Glenn was instrumental in the field studies, providing demonstration units for the following integrated technology elements that were monitored from a mobile desert office:

EVA Information System (EVAIS) to improve astronaut efficiency and allow more astronaut autonomy in performing typical surface exploration tasks. Point of contact (POC): Obed S. Sands



Astronaut Stanley Love samples rocks aided by his EVAIS backpack, complete with a camera to maintain communication while scouting the terrain.

EVA Crew Location Determination System using signaling infrastructure, sufficient to locate astronauts up to 10 kilometers walk-back distance. POC: Michael J. Lichter

Fuel cells and storage systems to power mobile and stationary systems for

Continued on page 3

Field Studies Simulate Terrain

Continued from page 2

extending the rovers' field range so astronauts can travel longer distances before refueling; and to provide auxiliary power for use at base camp. POC: Carolyn R. Mercer

Exercise ergometer for the Space Exploration Vehicle that generates power for operating devices or recharging batteries and which provides aerobic and resistive modes for efficient cycling and upper body exercise at low-gravity destinations. POC: Gail P. Perusek

Power system for use inside the Habitation Unit, including power distribution and converters as well as a trailer-based external power source that uses solar power and power conditioning to provide 1 kilowatt of power. POC: Anthony J. Colozza

Excavator attached to NASA Johnson Space Center's Centaur 2 rover, used to move material from the

Pictured right is the Fuel Cell-powered Space Electric Vehicles docked to the Habitation Unit.



Photos courtesy of NASA

Pictured left is the ergometer cycle mock-up for rover seating (blue plywood) and human-subject analysis in the Exercise Countermeasures Laboratory at Glenn.

explored surface as needed, including into a processing bin up to one meter high. POC: Steven W. Bauman

Lessons learned from these field tests will be valuable to Glenn researchers' continued progress in developing these technologies to support safe, productive

human exploration. A full demonstration of down selected technologies is expected in the next series of NASA RATS demonstrations scheduled for 2011. For more information on NASA RATS activity, see http://www.nasa.gov/exploration/analogs/desert_rats.html.

—By Katherine K. Martin
and S. Jenise Veris

Multimedia Game Spotlights NASA Spinoffs

Step Right Up...Test Your Luck

Learning about Glenn technologies that improve life on Earth is as easy as a spin of the wheel thanks to a new web-based multimedia game created at NASA Glenn.

The NASA Glenn Spinoffs Game enables visitors to the Web Portal to take a spin on a rotary wheel to test their

knowledge about some of the more than 200 technologies that have been used to create "spinoffs"—products created by independent companies using NASA technology.

With the support of center management, Glenn's Business Development and Partnership Office Deputy Chief

Kathy Needham worked with the Imaging Technology Center's Multimedia Team and the Community and Media Relations Office's Web Portal Team to develop this interactive educational feature. A lively circus backdrop—complete with clowns—beckons online players to try their luck at guessing 22 questions ranging from Glenn-

based technology spinoffs to general NASA information.

Gary Nolan (WYLE), Imaging Technology Center, said that he chose a circus theme because it is well recognized by people of all ages, including the target audience of middle to high-school students. He used a combination of graphics and programming to create the Flash feature. Web Content Creator Tori Woods (SGT), edited the text to present it in an engaging manner.

In addition to the web-based Spinoff game, Glenn is developing a kiosk version for the Journey to Tomorrow mobile exhibit and Glenn's Visitor Center at the Great Lakes Science Center.

Take a spin and try your luck by logging onto <http://www.nasa.gov/externalflash/Spinoffs-web/index.html>.

—By Doreen B. Zudell





Photo courtesy of GLSC

◀New Exhibit at Glenn's Visitor Center

A fuselage exhibit was recently added to Glenn's Visitor Center gallery at the Great Lakes Science Center. Visitors entering the exhibit are greeted with a short message describing Glenn's involvement in future innovations in aeronautic research that makes planes quieter and faster and lowers emissions. The exhibit offers two computer kiosks with touch screen interactive materials where visitors can touch a "hot spot" on an airplane or the helicopter to gain greater detail on specific improvements.

Celebrating Diverse Abilities

It took nearly 500 hours to bring to life the 6-by 30-foot mural, "Liberty, Justice and Access for All," commissioned in celebration of the 20th Anniversary of the Ohio ADA (American Disabilities Act). During Glenn's Disability Awareness Month event on Nov. 15, Cleveland area natives Shari Veleba, journalist/artist, and Ann Christopher, disabilities advocate, presented the mural and engaged Glenn employees in video highlights of the 13 Ohio artists with disabilities, who contributed to the mural designed by master artist Kong Ho. Christopher, seated by mural, and Veleba, inset photo, also spoke about the challenges of living with a disability and their effort to ensure greater inclusion for all in the future.



Photos by Richard Woodard



C-2010-5089

Photo by Bridget Caswell

◀Advocating for American Indian Youth

Local members of Indian Nations joined Glenn employees on Nov. 3 to celebrate National American Indian Heritage Month. Keynote speaker Dr. Stacey Jolly discussed her diabetes research and the need for health intervention programs to educate American Indian youth to the risks of diabetes and other diseases on the rise in their communities. Dr. Jolly, an Aleut Alaskan native, is a physician and assistant professor at the Cleveland Clinic Lerner College of Medicine at Case Western Reserve University. Flutist Billy Crowbeak and the Marlys Rambeau Dance Troupe performed, in addition to the round dance (pictured) performed by all.



Photo by Karen Edwards

Astronauts in Training

Over 300 students from around Ohio gathered in NASA Glenn's Hangar on Nov. 6 for the 18th annual Young Astronaut Day, a fun day of competitive events designed to stimulate interest in aeronautics, space, science and engineering. Astronaut Yvonne Cagle gave the keynote speech, while more than 50 volunteers from Glenn and the American Institute of Aeronautics and Astronautics guided student activities ranging from designing space shuttle tiles to building and testing airfoils for a wind tunnel experiment.

Hitting the Air Strip

Glenn participated in a number of air shows during the summer season, highlighting NASA's technological achievements in aviation and space. Glenn's Exhibit Department provided exhibits and artifacts as well as interactive displays and demonstrations. Employees from across the center added a personal touch by answering questions and sharing their expertise with the public. Pictured, left, is Elizabeth Wagner, WYLE/Center Operations Directorate, helping a young visitor learn what it feels like for astronauts to perform glovebox experiments in space during the Cleveland Air Show in September.



C-2010-5384

Photo by Chris Lynch



C-2010-5424

Photo by Michelle Murphy

Freedom is Not Free

On Nov. 10, Center Director Ray Lugo welcomed Samuel Felton Jr., a Vietnam veteran and the 2010 Lorain County Veteran of the Year, as guest speaker of this year's Veterans Day Recognition Ceremony. During his remarks, Felton (pictured far right) spoke little of his heroics that earned him the Navy Cross for valor in Vietnam. Instead, he focused on the lasting brotherhood across diverse backgrounds established to survive the hostile environment and commitment to preserve and protect our freedom. His presentation also included a video memoriam to fallen comrades from Lorain County.

Laptops Support Science–Technology Education

Glenn's Office of the Chief Information Officer and ODIN (Outsourcing Desktop Initiative for NASA) recently donated 75 laptop computers to the Great Lakes Science Center to support the science center's educational programs. Pictured is William "Randy" Humphries (far right), Glenn's acting chief information officer, and Debbie Seichko (left), Lockheed Martin's ODIN program manager at Glenn, presented two of 75 ODIN program laptops to Linda Abraham-Silver, GLSC president and CEO, and P.J. Ozak, a fourth-grade science center student, in a ceremony at the GLSC on Oct. 15.



Photo courtesy of Lockheed Martin

Hackers, Crackers and Attackers

You Have the Power to Prevent Viruses

Computer hackers, crackers and attackers are out there to break into our system and only you have the power to fight them off! You can prevent the spread of computer viruses and attacks. In fact, users' actions are the best protection against malicious spam emails, also known as malware.

In September, a spam email with the subject line "Here You Have" impacted users across the agency. Users (especially those with elevated privileges) who opened the email and clicked on the link to download the program, helped enable the spread of the virus, which burrowed into multiple locations on the users' systems. Users that

"Replied All" on the distribution list compounded the problem. The virus compromised the computer systems, which in some cases required scanning, cleaning and reloading the hard drives. Several hundred users agencywide were without computers until their systems could be reloaded.

"Users have the capability to prevent the spread of viruses by diligently examining emails before they are downloaded," said Rich Kurak, IT Security Office. He recommends the following safe computing habits:



Before you click on a link, ask yourself

- Did I expect the email?
- Do I know the sender/source?
- Is the link what it appears to be?
- Is the website safe? Should I run a program I didn't expect?

If the answer to these questions is "No," then don't click on it and don't "Reply All."

For more information, go to http://www.grc.nasa.gov/WWW/CIO/ec_itsat/Awareness/AwarenessIndex.htm or contact Linda McMillen, IT Operations Office, 216-433-8031.

—By Doreen B. Zudell



People

Women Inspiring Women

A panel of judges assembled by the Career Communications Group, Inc. honored two NASA Glenn employees at the 2010 Women of Color (WOC) (STEM) Conference and Award program. Glenn's Cheevon "Mi-Mi" Lau, director of Audits and Assessments at the NASA Safety Center, received a Special Recognition award and Terrian Nowden, an electrical engineer in the Power Systems Engineering Branch, received a Technology All-Star award. These awards honor women who excel in the fields of science, technology, engineering, mathematics and business and who work to improve the status and climate of women currently in the workforce, as well as the next generation.



Lau



Nowden



Retirements

Larry McFarland, IT Security Branch, Office of the Chief Information Officer, retired on Nov. 3, 2010, with 50 years of federal service, including 28 with NASA.



**NASA Glenn's
Emergency
and Inclement
Weather Line:**

**216-433-9328 (WEAT)
Lewis Field**

**419-621-3333
Plum Brook Station**

Glenn Earns Four NESC Honor Awards

NASA recognized four Glenn honorees among the best technical representatives across the agency that work to solve critical operation and development issues, during the 2010 NASA Engineering and Safety Center (NESC) Honor Award ceremony at NASA Marshall Space Flight Center on Nov. 16. The following received NESC Engineering Excellence Awards:

Dr. Christopher Dellacorte, Tribology and Mechanical Components Branch, for exceptional technical support in the area of tribology and mechanical systems as exemplified in the International Space Station Solar Array Alpha Rotary Joint recovery.



Dr. Dellacorte



Dr. Krantz

Dr. Timothy L. Krantz, Tribology and Mechanical Components Branch, for engineering excellence in support of the International Space Station Solar Array Alpha Rotary Joint anomaly including critical experiments and data reduction to determine the most probable root cause.



Dr. Lawrence



Dr. Opila

Dr. Charles Lawrence, Structures and Dynamics Branch, for exceptional technical support to the Orion occupant protection study leading to advancements in biomechanical injury prediction and improvements in spacecraft seat and restraint designs. Lawrence was also a recipient of a NESC Group Achievement Award on behalf of the NASA NESC Orion Landing Attenuation and Ares-1 Thrust Oscillation Isolation Team.

Dr. Elizabeth J. Opila, who previously served in the Durability and Protective Coatings Branch and currently is employed as an associate professor at the University of Virginia, for excellence as a member of the NASA Engineering and Safety Center supporting Reinforced Carbon-Carbon Root Cause Investigation Team.

Looking for a NASA Gift?

WWW.NASAGIFTSHOP.COM

Do you have a NASA enthusiast on your holiday gift list? NASA Glenn's Exchange Gift Shop is making it more convenient than ever before to purchase NASA specialty items. Employees and the general public can now view the gift shop's selection of quality merchandise and collectables and purchase those items online.



You can purchase NASA-related gifts—in person at the gift shop or online.

The online store is open 24/7 at www.nasagiftshop.com, and offers payment by PayPal for secure checkout and payment with a credit card. Inventory is updated frequently, so be sure to check back often.

If you prefer shopping in person, visit the Exchange Gift Shop in the Employee Center, building 21, Monday through Friday from 10 a.m. to 2 p.m.

This holiday season, surprise someone with a memorable gift from the store, and be sure to treat yourself too!

"My Job at NASA Glenn"

New Series on Web Portal

The Web Portal Team has started a new series of web feature stories on the Glenn portal. The series is called "My Job at NASA Glenn," and will include profiles of individuals from Glenn. These people will be from all different divisions and directorates, and will represent many different fields and job descriptions.



Graham

The purpose of this series is to introduce visitors to the Glenn website and to some of the many talented people we have at Glenn. The series will offer insight to the myriad fields and types of jobs performed at Glenn, while emphasizing the value of education, specifically a STEM (Science, Technology, Engineering and Mathematics) education.

Check out "My Job at NASA Glenn" here: <http://www.nasa.gov/centers/glenn/about/employees/index.html>.

The first profile subject in the new series is Scott Graham, the acting associate director of the Space Flight Systems Directorate.

Do you know someone who would make a great subject? Please nominate them—or yourself—by emailing Tori Woods (SGT) at victoria.e.woods@nasa.gov.

began his NASA career as an aerospace mechanic and advanced to foreman of the Hangar supporting the Flight Operations Services Branch, where he was responsible for overseeing the maintenance of all Lewis aircraft. In 1969, Raith was a member of the Flight Ops team that rescued research pilot Earle Boyer after his F-8 crashed at Hopkins Airport. Evidence suggests that Raith showed the rescuers how to pop the canopy and then personally cut Boyer free from the burning aircraft. Raith was also a member of the F-106 Flight Team that received a NASA Group Achievement Award (1971) recognizing them for outstanding achievement in conducting nozzle flight research.



Calendar

AFGE MEETING: AFGE LOCAL 2182 will hold its next membership meeting on Wednesday, Jan. 5 at 5 p.m. at Denny's Restaurant, 25912 Lorain Road, North Olmsted.

IFPTE LOCAL 28, LESA MEETING: LESA will hold its next membership meeting on Wednesday, Jan. 12 at noon in the Small Dining Room of the Employee Center.



In Memory

Lloyd Krause, 84, who retired in 1981 with 23 years of federal service, died Sept. 24. Krause began his NASA career in 1955 working in the Instrument and Computing Division, where he became the section head for the Instrument Research Branch until 1969. Over the next 12 years, Krause and a dedicated staff supported a variety of organizations, including the Physics and Electronics Division, where he retired as head of the Sensor Development Section. Krause earned several awards between 1970-73 from the Technology Utilization Office for published technical briefs.



Kostyack

Edward J. Kostyack, 76, who retired in 2004 with 42 1/2 years with NASA, died in October. At the time of his retirement, Kostyack worked as the research support manager in the Aviation Environments Technical Branch. Kostyack spent most of his NASA career in the Test Installation Division supporting primarily wind tunnel and aviation research. He won numerous performance awards and provided important leadership as a member of the Wage Grade Committee for 8 years with the Lewis Suggestion Program, which served as a model for the agency. Kostyack was a U.S. Army veteran.



Raith

Deadlines

News items and brief announcements for publication in the January issue is noon, Dec. 17. Larger articles require at least one month notice.

READ US ON THE INTERNET:

<http://aerospacefrontiers.grc.nasa.gov>

Herme
Award
2009-
2010



Donald J. Raith, 89, who retired in 1974 with 30 years of NASA service, died Nov. 14. He

Help Wake Up The Astronauts



The Space Shuttle Program invites the public to help choose wake up songs for the astronauts during the last two scheduled space shuttle missions to the International Space Station. The STS-133 mission songs were selected from a list of the Top 40 wake up songs of past missions. Only original songs will be considered for the STS-134 mission. Entries and voting began Aug. 17 with a deadline of January 10. The top entries will be posted at <http://songcontest.nasa.gov/> for a public vote starting on Feb. 8, 2011. The two songs with the most votes will be announced and played during the STS-134 mission, scheduled to launch on Feb. 27, 2011.

National Aeronautics and Space Administration

John H. Glenn Research Center at Lewis Field

21000 Brookpark Road

Cleveland, Ohio 44135

www.nasa.gov

AeroSpace Frontiers is an official publication of Glenn Research Center, National Aeronautics and Space Administration. It is published the second Friday of each month by the Community and Media Relations Office in the interest of the Glenn workforce, retirees, government officials, business leaders and the general public. View us online at <http://aerospacefrontiers.grc.nasa.gov>. Submit contributions via e-mail to the editor: doreen.b.zudell@nasa.gov or 216-433-5317.

Editor: **Doreen B. Zudell**, SGT, Inc.

Assistant Editor: **S. Jenise Veris**, SGT, Inc.

Managing Editor: **Kelly R. DiFrancesco**

Happy Holidays!



VOLUME 12 ISSUE 12 DECEMBER 2010

Glenn 2010 Combined Federal Campaign Surpasses Goal

Glenn Teams To Create Winning Recipe

For NASA Glenn's 2010 Combined Federal Campaign (CFC), the winning recipe was determination, dedication and generosity of center employees. These ingredients combined to make a fun and successful campaign in which the center surpassed its goal of \$400,000.

Employees from across the directorates joined together to serve as chairpersons, key workers, committee members and generous sponsors during the campaign, which ran from Sept. 21 through Dec. 4. Hard work and teamwork blended together to create fun events that ranged from the car show and ice cream social to the basket raffle.

"I want to thank the Glenn community for their willingness to share and their creative measures taken to 'stir up' this year's campaign," said 2010 CFC Chair Francine McWhorther. "Thank you for being part of the winning recipe!"

—By Doreen B. Zudell

Pictured, top to bottom, left to right: CFC committee members mix up the recipe for the 2010 monetary goal during the kickoff; Chairperson Francine McWhorther at the kickoff; employees scoop up fun at the ice cream social; 47 baskets raised \$9,300 at the basket raffle; classic, muscle and other unique cars were on display at the car show.



C-2010-4572



C-2010-4558



C-2010-4620



C-2010-5357



Photos by Bridget Caswell, Michelle Murphy and S. Jenise Veris

